

What Is Air Conditioning?

To the general public "Air Conditioning" is a comparatively recent development and the layman has not as yet been educated to appreciate the exacting requirements of the term. He is generally unaware of its limitations, although he recognizes that it should lead to greater bodily comfort.

The innumerable types of equipment now offered indicate that the term is being indiscriminately applied to installations and devices of almost every description. This, together with the contradictory and, in many instances, misleading claims presented in behalf of the manufacturer relative to the performance, initial and maintenance costs of his particular equipment have created much confusion in the public mind and naturally prompt the oft repeated inquiry "What is Air Conditioning?"

Air conditioning, or as one prominent organization aptly terms it "manufactured weather," is the process by which the temperature, moisture content, movement and cleanliness of the air in enclosed spaces intended for human occupancy, are simultaneously controlled and maintained within definite specified limits at all seasons of the year regardless of weather conditions.

The equipment controls the temperature by summer cooling and winter heating, regulates humidity by addition or elimination of moisture, and creates movement by the even distribution and circulation of both tempered and humidified air. It provides enough ventilation to produce a mild distribution and sufficient fresh or revitalized air to eliminate smoke and objectionable odors.

An installation that does not perform all of these functions is not a complete air conditioning system. The type of equipment and control naturally vary with the specific requirements, character of space, and number of persons accommodated within the enclosed area.

Equipment or apparatus that but partially fulfills the above requirements should, for the protection of both the industry and the public, be so designated as to clearly set forth the specific purpose for which intended, viz: Cooling, Humidification, Air Movement or Air Filtration.

Air at any given temperature will absorb only a specific amount of moisture. The cooler the air the less moisture it is capable of holding, and vice versa.

When introduced by infiltration into a heated area, cold outside air with its low moisture content mixes with warmer air of greater humidity and as it becomes heated absorbs all possible moisture from persons or objects which it surrounds, creating a dry condition of relative low humidity. This imparts a feeling of chilliness to the occupants even though the thermometer shows no change in temperature. To overcome this condition, it is necessary to increase the moisture content of the air within the enclosed area.

In warm weather the opposite condition prevails. Warm or humid outside air with its high moisture content, upon becoming mixed with the cooler, dryer inside air, results in a feeling of discomfort to the occupants due to the excess heat and high humidity. To remedy this situation the excess moisture must be removed.

This is usually accomplished by passing the air through a spray chamber or over a surface evaporator. The tem-

perature of the warm or humid outside air coming in contact with the cooling medium is immediately lowered to the required dew point or to where a portion of its moisture content is condensed. The cooled, de-humidified air, when circulated through the conditioned area, absorbs heat and moisture and the process is repeated.

The inside air, plus a certain percentage of fresh outside air, may be recirculated and the excess air is forced out by means of an exhaust fan or by leakage through cracks around doors and windows.

A proper comfort zone, or condition acceptable to at least 50% of the occupants, has been definitely established. In winter a temperature of 68° to 70° F and a relative humidity or moisture content of 20 to 50%; in summer 70° to 85° F and 50% humidity, depending on outside conditions, has proved generally satisfactory.

Experience and extensive research on the part of both engineer and manufacturer have produced many types of conditioning equipment adaptable to almost any condition. These range from the large commercial systems to the popular small units and apparatus especially adapted to home use. The latter give practically the same results as do the larger installations and also provide a greater degree of health, comfort and resistance to disease than is possible with the simple heating system.

For new homes a central system is preferable. This consists of a basement unit which houses the fan, filter, humidifier and heating coil. The latter is connected to the hot water or steam boiler and the air conveyed to and from the various rooms by a system of ducts. Primarily intended for "winter conditioning" only, in combination with a refrigerating machine or a supply of sufficiently cold water, it constitutes an "all-year-round" installation.

Another efficient and popular device is the "fan furnace type," consisting of an enclosed coal, gas or oil burning unit from which the conditioned air is distributed. If provided with air filter and humidifier, it becomes a winter system and by the further addition of summer cooling equipment, meets "all season" requirements.

A simple installation, particularly adapted to individual rooms in existing buildings which performs all functions of summer conditioning, viz: cooling, dehumidification and air circulation, consists usually of a cooling coil and fan enclosed in a small portable cabinet which can be placed in any desired location.

The refrigerating medium may also be housed in the cabinet, thus forming a complete self-contained unit, or it can be installed in another location and connected to the cabinet by small refrigerant lines. Where more than one room is to be cooled, several of these cabinets can, under certain conditions, be operated from a single refrigerating machine.

For "year round" service, room cabinets similar in appearance to the simple cooling units, but containing in addition a heating coil, an air filter and humidifier, are available. These, when connected to the radiator system and in combination with a suitable refrigerating unit, meet all conditioning requirements.

The basic principles of air conditioning have been

definitely established. However, as with all mechanical installations, the results obtained depend largely upon the ability and experience of the designing engineer.

As in other technical problems, the air conditioning engineer employs certain factors or co-efficients in his calculations to determine the size and capacity of the equipment required. Lack of experience and unintelligent application of these factors on his part have resulted in a wide variation in capacity and range in price of equipment offered by various individuals for the same specific purpose, much to the bewilderment of the prospective purchaser and detriment of the industry.

In an effort to remedy this condition, protect the purchaser, clearly define the specific functions performed and place all bidders on an equal basis, the industry recognized the necessity for a "Standard Code of Minimum Requirements," acceptable to both manufacturer and the engineering profession. For this purpose early in 1935 a

permanent committee of nine, each member representing a different technical society interested in the subject, was selected. The results of their deliberations are the "Chicago Standards" and a "Supplement" recently issued, containing detailed explanations and suggestions for architects and engineers designing air conditioning systems. Both will be revised from time to time as necessitated by further research and progress made by the industry.

These documents are now available in printed form and those interested may secure copies, free of charge, from the "Chicago Committee on Air Conditioning Standards" or any of the organizations endorsing them. Members of the Illinois Society of Architects should apply to H. L. Palmer, Financial Secretary.—*John J. Davey, Illinois Society of Architects' Representative on the Board of Nine Organizations Endorsing the Chicago Air Conditioning Standards.*

Incorporated Architects and Partnerships

The National Council of Architectural Registration Boards in its recently published Circular of Advice No. 4 says in Paragraph 3:

Corporations are impersonal; they have an existence apart from the personnel composing them, and cannot be examined as to personal qualifications nor be subject to the pains and penalties of imprisonment or capital punishment. Therefore, corporations are constitutionally incapable of assuming the obligations incident to professional practice. Corporations may act as agents for professional men but may not be allowed to practice architecture or any other profession, nor lawfully use a registered professional title in connection with a corporate name.

These statements are supported on the grounds of public benefit because the purpose of professional registration is to protect the public by first establishing proof of the competency of the individual, and then placing responsibility upon him in an inescapable way.

By contrast, corporations are designed primarily to relieve the individual from personal responsibility. For this reason, so-called professional corporations are in contravention of the purpose of professional registration.

In its April, 1929 issue the Monthly Bulletin of the Illinois Society of Architects published the opinion in full rendered the Society by Attorney Alexander H. Marshall on "Corporate and Other Improper Nomenclature and Practices." Reprints of this opinion are available without charge to those applying to H. L. Palmer, Financial Secretary, I. S. A., 134 N. LaSalle street, Chicago. The opinion is summarized below.—Editor.

Following a careful examination of the statutory provisions from States throughout the Union and a careful survey of the Illinois Statutes and decisions which indicate the policy of the laws of Illinois on the subject, I am prepared to submit an opinion.

Section 3 of the Illinois Architectural Act directs that "no corporation shall be licensed to practice architecture in this State or be granted a certificate of registration under this Act . . ."

It is true that Section 3 recognizes the right of a corporation under restricted conditions to prepare plans for buildings, which are to be constructed by, or such construction supervised by the same corporation under proper supervision, all as specifically set forth; but the law nevertheless prohibits the *licensing* (or *registration*) of such a corporation to engage in the practice of architecture in its general and ordinary sense.

Section 1 of the Illinois Architectural Act provides: "It

shall be unlawful for any person to practice architecture or advertise to put out any sign or card or other device which might indicate to the public that he or she is entitled to practice as an architect, without a certificate of registration as a registered architect, duly issued by the Department of Registration and Education under this Act, and as provided for in the Civil Administrative Code of Illinois."

Your committee has raised the question as to the right of a corporation to make plans (by licensed architects in its employ) for sale to the general public without provision for supervision of the building by the same corporation as specifically conditioned in Section 3 of the Illinois Architectural Act. The writer is of the opinion that such practice constitutes a clear violation of the law.

Your committee has also requested an opinion as to the use of the architect's seal. The statute clearly contemplates that the act of affixing the architect's seal shall be a *personal* one in the full sense of the word. It cannot be delegated. It imports a discharge of the architect's highest obligation as a member of his profession in its duty to and in protection of the general public.

Section 11 (c) of the Illinois Architectural Act provides that "the affixing of a registered architect's seal to any plans, specifications or drawings which have not been prepared by him or under his immediate personal supervision" is a misdemeanor.

* * *

Attorney Marshall today cites the case of Haynes v. East St. Louis Council No. 592, Knights of Columbus, 258 Ill. App. 38, decided in May, 1930, as follows:

1. BUILDING AND CONSTRUCTION CONTRACTS—right of licensed member of partnership of architects to perform under partnership contract. Under a contract of a partnership of architects to prepare plans, specifications and drawings for a building, which did not contain a specific provision for architectural services to be performed by each and every member of the firm, any member of the firm who was a lawfully licensed architect has the right to perform the services mentioned in the contract.

2. BUILDING AND CONSTRUCTION CONTRACTS—validity of contract of partnership of architects when only one member is licensed. The making of a contract by a partnership of architects to prepare plans, specifications and drawings for the building is not a violation of the statutory provision for the registration of architects, Cahill's St. ch. 10a, 1, on the ground that only one of the

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Editor Monthly Bulletin

ARTHUR WOLTERS DORF, 520 NORTH MICHIGAN AVE., CHICAGO

The Bulletin presents below the list of Standing and Special Committees of the Illinois Society of Architects, together with their personnel. They are all working in the interest of the professional architect. Members of the Society having professional matters of importance in mind needing consideration, are requested to communicate with the committee in whose category the question would naturally fall. The Society aims to be alert and active in solving problems affecting the body of architects.

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Legal Service Committee: Composed of entire Board of Directors.

State Arts Committee: PHILIP MAHER, Chairman.

Building Valuations Committee: MELVILLE C. CHATTEN, Chairman.

Publicity Committee: H. L. PALMER, Chairman.

Williamsburg, Virginia. A name for American architects to conjure with. Founded under William and Mary, it was the capitol of Virginia colony 1699-1779. Home of William and Mary College and seat of colonial culture. Its architecture, town plan and gardening were the best in America. When Richmond became the capital in 1779, the town declined though the college continued to function and does today.

Rev. W. A. R. Goodwin of Bruton Parish Church, inspired by Williamsburg's history, interested John D. Rockefeller, Jr. in 1925 to finance the restoration of the city. Perry, Shaw and Hephurn, architects of Boston, Mass., were selected to make researches in America and England and reconstruct Williamsburg as it appeared in 1754. The landscape architect is Arthur A. Shurcliff. With what extraordinary success their work has been crowned may be gleaned by perusing the pages of The Architectural Record for December 1935.

The 1936 Convention of the American Institute of Architects will be held at Williamsburg and at Old Point Comfort, May 5 to 8. Headquarters will be at Hotel Chamberlin, Old Point Comfort, since hotel accommodations at Williamsburg are inadequate. A delightful drive of 38 miles connects the two points. There is bus service.

Arrangements are in the making for a trip for architects and their ladies to the James River colonial estates—Westover, Shirley and the Brandons—after the convention.

All architects are welcome as guests at Institute conventions. Members of the Illinois Society of Architects are here offered an unusual opportunity of seeing the finest example of colonial culture under circumstances which may not again be offered.

Forest Products Laboratory, Madison, Wis., is trying to collect whatever information is available in the field of treating compounds in order to work out average life expectancies for the many proprietary treatments that are offered. If you have used any of the proprietary preparations for wood preservation in the past and have kept a record of the service rendered, or if you know of any such records that have been kept by other users, the Laboratory will appreciate receiving the information that you have.

The A. I. A. has declared itself as looking with disapproval on the publication of the work of its members in any publication supported in any way by advertisements, except in regular magazines, and the Committee on Practice must henceforth consider such practice as unprofessional conduct and so report to the Judiciary Committee the cases brought to the attention of the Committee.

The Marshall Field I mansion at 1905 Prairie avenue announced to be wrecked two months ago, is destined to become the school of industrial art of the Association of Arts and Industries, Col. William Nelson Pelouze, President. Work of transforming the house into offices, classrooms and workshops, and the spacious grounds into a campus, will begin shortly. Classes will open in the Field mansion with the fall term of 1936.

Perhaps anyone still in Architecture can be compared to the patient who has just reached the very beginning of the convalescent stage: he still looks damn sick to his friends; but secretly he is so elated at the prospect of any existence at all, so surprised he isn't altogether dead, that he can speak cheerily on practically any subject.—Hugh Ferriss.

Illinois Society January Meeting

The Time: January 28. Place: The Architects Club of Chicago. Occasion: Monthly meeting of the Illinois Society of Architects. Attendance: 75 members and guests.

Following Secretary McEldowney's reading of the minutes of the November meeting (the Society holds no December meeting), President Jensen addressed the company on the evolution of steel construction. Forty years ago, he said, he had made a pilgrimage to New York to study what advance had been made there over the Chicago practice and returning on the train to Chicago, he had met the Star of Bethlehem Steel—Charles Schwab. Early steel design, with its applied angles, channels, etc., etc., was a complicated affair and the President noted the advance in evolution toward simplicity and beauty.

With these words he introduced C. Earl Webb, Division Engineer, substituting (pinch-hitting in the vernacular) for Albert Reichmann, Vice President of the American Bridge Company. Mr. Reichmann was held in Montana by below zero weather. Mr. Webb read a paper on split beam, rigid frame construction. Steel, he said, was eighty years old and replaced wrought iron in structures about 1880. He pointed out early false economy in design and led up to the rigid beam construction of large spans by means of split beams and dated this 1929, following the introduction of wide flange beam and column sections, C. B. and others. He pointed out that in skeleton construction the steel skeleton consumes about 10% of the cost of the completed structure; that with the new advances he was pointing out, 1% of the 10% might also be saved. But the greater appeal was in simplicity of construction, economy of space and aesthetic design.

At this point, this reporter was mentally transported back eight years to the New York office of the American Institute of Steel Construction where the late Arthur T. North showed him a series of photographs of newer German and Austrian bridges and building spans. North dwelt upon their beauty, their simplicity. They were of what is called here split beam construction. North wondered how long it would take before American engineers would see the light and do likewise.

Mr. Webb then turned to pictures on the screen where the Field House of the University of Chicago and the International Amphitheater at the Union Stock Yards were pictured. Both have roofs of split beam construction.

E. W. P. Smith, Consulting Engineer, was next introduced. He spoke extemporaneously on applied welding in structural design. Mr. Smith comes as an authority. He is a teacher of this subject at the John Huntington Institute of Cleveland. He has held courses in welding for executives, engineers, welding supervisors and advanced welders. His appeal is through logic and demonstration rather than oratory, as he himself stated. He found men slow in seizing the advantages of welding, even though there have been many publications on the subject and practical demonstrations in execution, such as the Ford Building steel trusses at the 1934 Century of Progress. He spoke of fatigue values and ultimate strengths of welding metals. Turning on lantern slides, he showed welded structures of various classes beginning with the 14-story skeleton frame for an office building in Dallas, a dome for an astronomical observatory, train sheds and industrial plants, and finally the small house where welded steel shapes replace 2x4 and 2x6 wood. He discussed welded joint and steel plate efficiency and recommended stethoscopic tests as having proved effective and inexpensive.

With Illinois Society Committees

On page 3 of this issue will be found the names and the personnel of standing and special committees of the Illinois Society of Architects. The activities of these committees will be summarized from issue to issue under the caption above.

The Program Committee invites suggestions from the membership regarding the nature of programs desired for the meetings of the Society.

The Legislative Committee, after listening to Allen C. Williams, representing the Metropolitan Housing Council, has given careful study to the proposed "Ordinance Relating to Buildings Used for Purposes of Human Habitation," sponsored by the Metropolitan

Housing Council. A table of contents of the proposed new building ordinance for Chicago was forwarded to President Jensen with the message that all chapters of the document are now in the hands of the City Council committee for early action in public hearings. A state license law and the Chicago ordinance creating a Board of Plumbing Examiners, both passed in 1935, require on every plumbing job a master plumber as well as journeymen plumbers.

The special committee of one (Victor A. Matteson) for by-laws amendments to make possible the Society's "State Association Membership" in the A. I. A. at any time, recommends amendment of by-laws by simply adding a new section having to do with "Association Membership" of the Society in the Institute.

December and January Chapter Meetings

Tuesday evening, December 17, the Chicago Chapter, A. I. A., met at the Architects Club of Chicago for its regular December meeting. President Hall referred to a letter he had received from Institute President Voorhees, dwelling upon the many members going into retirement and the necessity for new members of the right timber. Mr. Voorhees expressed the opinion that during the last year the profession's position showed decided improvement. President Hall pleaded again for a strong national organization and announced that the next national convention will be held at Williamsburg.

A Mr. Hostetter appealed for encouragement and support of the Landis Award Employers Association—an organization that had done yeoman service in the 1920's, a period harassed by jurisdictional strikes and other high-handed actions by labor union leaders.

Interesting was the paper read by the Chapter's oldest member, Mr. J. M. Hoskins, now 85 years old. This paper explained Mr. Hoskins' plan for reforesting Chicago's boulevards, each boulevard to be widened to approximately 400 feet between property lines and provided with two 60-foot wide driveways flanking a forested parkway 220 feet in width. Each boulevard leads out of town to a forest preserve. The general destruction of trees and shrubs lining the streets in our city was deplored. He recommended a wooded area along the lake, using pines, oaks, maples, and other beautiful temperate zone trees. The plan was recommended to the Chicago Plan Commission for consideration.

Special speakers for the evening announced in the invitation were Carl M. Snyder, Manager, General Electric Housing Department, and Walter Kantack, the art craftsman designer in metals who was awarded the Institute craftsmanship gold medal in 1934.

The program miscarried. Mr. Snyder, fluent and endless, really gave a G-E sales talk under the guise of housing and he rolled on like thunder 'cross the bay. Following Snyder's interminable talk came the G-E film "Three Women." The photography was good, partly in technicolor, the dialogue inane, but it served the purpose of advertising every kitchen gadget that the G-E Company produce.

When the film had ended the hour was so late that Mr. Kantack generously volunteered not to hold the company, suggesting that he give his address at a more fitting time. The Program Committee showed bad judgment in subjecting the Chapter membership to a speech and film that were evidently prepared for women's clubs. But the small company bore up bravely under the G-E barrage. Such fortitude is deserving of a better cause.

* * *

At the Chicago Chapter's January meeting, falling on the 7th, President Hall again reminded his hearers of Institute needs; that the Institute's income to carry on its work depended upon members' dues; that delinquents were about to be dropped and that separation from the Institute automatically meant separation from the Chapter. Secretary Heimbrodt read a synopsis of the minutes of the October, November and December meetings.

Messrs. Reger and Corboy of the Plumbing Contractors Association of Chicago were introduced. Henry P. Reger, in a short address, explained the circumstances culminating in the research and testing laboratory instituted by the Chicago Master Plumbers Association. The cause was the epidemic of amoebic dysentery discovered in Chicago during the 1933 World's Fair and traced to a hotel. The Health Department's investigations proved water pollution in the plumbing system to be the cause. The Master Plumbers, feeling a responsibility, started the laboratory and the findings,

through tests in cooperation with Dr. Bundesen and the Chicago Board of Health, have been a lesson for the entire country on the dangers of siphonage in plumbing fixtures and cross connection of two or more water systems often under different pressures.

The company then betook itself to the laboratory at 1503 South Michigan avenue. Imagine yourself in a medical clinic with spectator's seats banked up on a steep incline. Opposite, a plumbing fixture of every type in common use from water closet and sink to bath tub and operating room fixtures, properly connected according to recognized good practice with supplies, drains, traps, vents, etc.; fixtures arranged on two different levels; vacuum tanks, charts and explanatory placards.

William R. Brookman, Secretary of the Illinois Master Plumbers Association, reads a paper. Inspectors from the Chicago Health Department operate the valves causing water to flow through glass tubes connecting fixtures to permit spectators to see water, colored to show its flow, travel from its destined route, through siphonage in the fixtures, into pipes where it does not belong. This was referred to in Victor A. Matteson's report "Pollution Through Back Siphonage" appearing in the December-January Bulletin.

Mr. Gallagher from the Board of Health and Mr. Mitchell from the Bureau of Water Pipe Extension gave their experiences in investigations. It is found that industrial plants located along the Chicago River use river water for fire prevention and industrial purposes; that cross connection of the river water and the city's lake water system, though contrary to law, often occurs—done by local engineers or handy men—and that through difference of pressure a vacuum is caused, transferring the river water into the city's lake water pipes. Both Board of Health and Water Pipe Extension Bureau are constantly on the alert for this and carry on continual tests.

The culminating demonstrations of the evening proved conclusively that vacuum breakers with moving parts fail; that any flush valve operating a water closet is unsafe without vacuum breaker; that grease traps, as commonly built and installed, are unsafe and may easily be drained directly into the sewerage system.

This demonstration is not a warning for Chicago alone, for Chicago's water and water system rank high among those of the country. It is a demonstration that ordinarily accepted plumbing practices throughout the land and appliances manufactured by practically all plumbing goods makers are subject to revision and correction. This testing laboratory should have the sincere and far-reaching cooperation, not alone of the National Association of Plumbing Contractors but of every health department in the country.

Purdue Housing Research Advances

Architects follow with much interest the experiment in low cost house construction being made at West Lafayette, Indiana by the Purdue University Housing Research. Of the nine houses proposed, three are under construction while six are in the planning stage.

A special campus is provided as the site. Roads are in the making and a deep well with pumping outfit supplies water. The sewage disposal tank has a 50 family capacity. The electric system is underground.

The three houses now building each provide a combined living-dining room, kitchen, garage, three bedrooms and one bath. The houses will be occupied by Purdue professors whose reports on the performance of their dwellings become an important part of the Housing Research. Characteristics of the first three houses are:

1. **PREFABRICATED** house built of steel studs and glued-up plywood wall panels. One story, flat roof, no basement, detached garage; heating, forced warm air with oil burner. This is the first house built in which this structural system is used. Contract cost \$4236. Architect, Howard T. Fisher, Chicago; Contractor, General Houses, Inc., Chicago.

2. **WOOD FRAME AND STUCCO** house using wood studs, metal lath and stucco on exterior; plywood on interior. Two story, flat roof, no basement, attached garage; heating, forced warm air with oil burner. Design of this house was awarded first prize in the Small House Competition conducted by the New York Chapter,

American Institute of Architects. Contract cost \$4681; Architect, J. Andre Fouilhoux, New York City; Contractor, Ed Schroyer, Lafayette, Indiana.

3. **REINFORCED CONCRETE** house using poured exterior walls and foundations, precast concrete floor joists and concrete floor slabs. Two story, flat roof, basement, built-in garage; heating, gravity warm air, coal fired. Contract cost \$4997. Architects, Burnham Bros. & Hammond, Inc., Chicago. Contractor, Chas. Gamsky Co., Inc., Menasha, Wis.

Two more houses are announced. Frameless steel walls, concrete floor, cellular steel roof, wood windows, gas fired furnace, are features of a house by Insulated Steel Construction Co., designers.

Full basement with 8-inch concrete walls, wood floor joists, walls of 2x4 wood studs and beveled siding, interior lath and plaster, wood shingles for roof, two full stories above ground. McNally & Quinn, Chicago, are the architects for this house.

Problems of Pre-Fabrication

Pre-fabrication discredits old practices; it seems to make some clean-cut, sound promises. Why then is it slow in succeeding?

Technologically, not only promises, but numerous solutions, are at hand. Full shop fabrication appears in many ways almost ready to reduce the building site to a short term assembling yard. Psychologically, the matter is not sufficiently solved to secure financial backing for the industrially fabricated house; and piecemeal financial underpinning does not help much. Possibly it does harm in demonstrating half-raw results. Industrial pre-fabrication of habitation is being announced by enthusiasts as today's great chance for capital investment and delectable returns. Why does not capital grasp this chance? Answer: There is no way known to ascertain whether a quantity acceptance will exist, when the market opens. . . .

Quantity sales cannot be secured except by a costly nationwide advertising program. This again is senseless before the machinery set-up for production is at hand, so that orders can immediately be answered with deliveries. It looks like a vicious circle. . . . No big manufacturer in the United States has, for example, yet succeeded in standardizing inter-city busses so that a machinery set-up for light all-metal frames has proven justified. This is characteristic, and speaks through analogy. . . .

The well-integrated, standardized, pre-fabricated, assembled house is in conflict with mass prejudices, which have first to be dissolved. The hand-made house cannot be camouflaged without losing pre-fabrication advantages. . . .

On the whole, we cannot doubt that a program of elimination of most of the field work and transforming the premises into a local assembling yard has gained ground in the United States. But I am fairly satisfied that there is left a significant role in this performance for the individual architect-engineer, within the limits of a period which marks the transition from field to industrialized shop work in the production of the human dwelling for the many. I expect that the professionally skilled, conscientious planning expert will remain in demand and gain in prestige, while thousands of thoughtless jerry-builders may well find threatening competition in a systematically organized mass-fabrication.—Richard J. Neutra in *"The Architect and Engineer."*

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partners is a licensed architect, and the contract is not void.

3. **BUILDING AND CONSTRUCTION CONTRACTS**—right to recover under contract of partnership of architects when only one member is licensed. Recovery of compensation under a contract by a partnership of architects to prepare plans, specifications and drawings for a building is not barred because of failure of a co-partner to have an architect's license, where the registered member of the firm had supervision of the plans, specifications and drawings, gave his skill and attention thereto, and fully approved the same before delivery to the owner of the building.—Alexander H. Marshall, Attorney for the Public Action Committee.

Laws to Protect Scenic Beauty

The Editor: I note with considerable professional interest, a reference to which my attention has been called, in the December number of the I. S. A. Bulletin, to a recent decision of the Massachusetts Supreme Court, restricting the use of private property for billboard purposes "for the protection of scenic beauty on private property." This decision, the first to be based on aesthetic grounds, is hailed as a "victory of nation-wide significance."

Granting that most billboards are ugly and offend the aesthetic taste, so also to many do carmined finger nails and painted lips. Why not pass a law prohibiting such practices on aesthetic grounds as practices opposed to the general welfare? It is apparent that the Massachusetts decision has dangerous implications in allowing a law making body to enter the domain of "the aesthetic" and to pass laws having no possible relation to public health or morals, and stretching the provisions for the general welfare to the point of absurdity.

It is interesting to note that in 1905 the Massachusetts Supreme Court held that restriction of an advertising display on private property was unconstitutional. (*Commonwealth v. Boston Adv. Co.*, 180 Mass. 348).

It is assumed that the billboards under consideration carry no advertisements which are indecent or against public morals. Before accepting a decision restricting the use of private property solely on aesthetic considerations as a "victory," it may be well to examine its implications, coming as it does when many of our citizens are "rediscovering" the Constitution. Personal rights and private property are supposed to be protected by the Constitution. On the other hand, the State and its municipal subdivisions are invested with certain "police powers" as inherent in all sovereign governments.

By an unbroken line of decisions, both in the U. S. and State Supreme Courts, the doctrine has been laid down that enactments under the police power must have some direct relation to the public welfare, and that laws and ordinances based solely upon aesthetic considerations, disconnected entirely from any relation to public health, morals, comfort, or general welfare, and which interfere with private property rights or personal liberty, cannot be sustained for purely aesthetic reasons. (*People v. Chicago*, 261 Ill. 16). Can aesthetic considerations be construed as matters of public welfare, so as to affect personal rights and liberty?

There is a theory that has obtained some recognition, not only in present official Washington, but also among a certain coterie of so-called intellectual liberals, as well as by such decisions as the one under consideration, that the guaranties of written constitutions are not inflexible, and that decisions construing them at one period of the State's history, under then existing conditions, are not binding when conditions have changed. That theory is based upon the conception that any constitutional guaranty, no matter how plain and clear it may be, can be dissolved and avoided by the application of the police power of the State on the grounds of so-called "general welfare." But it is very evident that the police power must have some limitations, or all personal rights and property rights are gone. The danger inherent in any departure from the well established rule above indicated, and the use of the police power as a solvent to dissipate plain constitutional provisions, was most ably pointed out by the late Mr. Justice Holmes (*Penn. Coal Co. v. Mahon*, 260 U. S. 415), when he said, *inter alia*, "When this seemingly absolute protection is found to be qualified by the police power, the material tendency of human nature is to extend the qualifications more and more, until at last private property disappears. But that cannot be accomplished under the Constitution of the United States."

It is plain that this decision of the Massachusetts Supreme Court is sustained by the U. S. Supreme Court, has very serious implications.—*Chester D. Kern, Attorney-at-Law.*

George Brandes, who dearly loved to point paradoxes, says in his Shakespeare book: In ancient Greece every second man could model a statue, in Elizabethan England every second could write a drama and in our day every second can write a newspaper article. In this sense it may be said—less paradoxically—that in the romanesque era in Germany every second cleric was a part masterbuilder. A knowledge of architecture belonged to education, and education was at home only in the church and monastery.—*Karl Scheffler in "Deutsche Baumeister."*

Le Corbusier's Visit Reverberates

It's a question whether the injustice to the subject of this sketch or to its author is the greater when the latter heard Le Corbusier's lecture in snatches, partly through defective linguistic abilities and partly from inferior strategic position in the hall. Perhaps I understood better what Le Corbusier did not say and was more alive to the golden opportunity he lost than impressed by what seemed to me a very little message. Therefore, in my opinion, the lecture was a disappointment except, perhaps, to those who will take pleasure in saying that they "once listened to Le Corbusier." For, unquestionably, he is a great force and must be, perforce, a great man, and to have merely heard and seen him may be something.

He is a great force because he has a completely single-tracked mind, directed by unlimited nerve and propelled by boundless energy. The first is evident in his asinine remark, if reported correctly, that a New York skyscraper didn't interest him. He has, in fact, the equipment of a Peter the Hermit or a William Lloyd Garrison—powerful weapons, undoubtedly, if you want to make a real dent on the shield of *laissez faire*.

I will make, therefore, no comment on what he said. It seemed to me old stuff. But how we would have thrilled if he had told us something of the great movement of Puritanism in architecture, of which he is the chief reformer, which has stricken, as a sin, ornament from our buildings as Cotton Mather snatched the brooches from the pretty white throats of the New England girls; or of the debt that the New Architecture owes to Louis Sullivan; or of the rich mine that the European Secessionists discovered in Frank Lloyd Wright's book of his works in 1912. Surely buildings such as the Palmolive or the Planitarium must have awakened reactions in the great mind which we would have been glad to hear—favorable or the reverse—though I have heard from those who took that painful tour of the city that he scarcely raised his eyes.

Could we not have heard something from him of our Century of Progress, the greatest laboratory experiment in history of a new theory of design—a theory of design of which he is supposed to be the chief sponsor? Perhaps he had never heard of it.

The holy visitation, however, may prove more valuable to us than even Le Corbusier could have imagined for it ought to have convinced us that we need no revelation from the other side as to what we should do in planning our cities, our culture, or our lives, and that, hereafter, our Machine for Living, which includes the whole panoply of architecture, should be a creature of our own genius.

—*Thomas E. Tallmadge.*

With some eleven or twelve million unemployed in the country and perhaps that many permanently so through progressively lessened need of human labor, the drift of architects into government bureaus and architectural departments of construction and realty firms is suicidal to the continued independence of the architectural profession.

One thing all practicing architects have in common, whether they design gothic cathedrals, state capitols, schools, skyscrapers, houses, or merely plan alterations to chicken coops, one and all they directly educate the public to the integrity and ideals of the architectural profession and the character and personality of the architect himself.

Put these same men on a salary dependent for their livelihood on "yessing" their employers to the public, and the architect will suffer the same fate as the engineering profession with its sales-engineers whose unbiased opinion is not to be had. One might as well urge the medical profession to become sales-medicoes for rival pill manufacturers.

The practice of architecture has its difficulties, but the architect at the age of fifty, sixty, seventy or until death do us part can and does maintain his practice, his freedom of thought and unbiased opinion. He is not gloriously retired to the sidewalk and the dole as is the pitiful employee of big business at the ripe old age of gray hair; that is, if architecture continues to be practiced as an independent, free and respected profession.—*Quid Nunc.*

"Louis Sullivan—Prophet of Modern Architecture"

Hugh Morrison, Author. The Museum of Modern Art and W. W. Norton & Co., Inc., Publishers.

When I first came to Chicago in 1887, Louis Sullivan was an outstanding architect of the city. His design for the Chicago Auditorium had won for him a national reputation. He was a forceful, brilliant personality, a genius in his ability to plan and design, and he was fired by a spirit of enthusiasm and earnestness for his theories and philosophy of architecture that made him a valiant and active leader of the new school of architecture.

He was a bitter opponent of the eclecticism in architecture of that day and was beginning to attract wide attention by his public speeches on that subject. He had a habit in his early days of using the most caustic and telling slang phrases to emphasize his utterances, and when one of his early speeches came to be published in the Annual Report of the American Institute of Architects, even Richard M. Hunt, then President of the Institute, who was an adept himself in the use of emphatic phrases, decided that Louis' manuscript should be edited so as not to impair the dignity of that publication.

There are probably few successful men who have ever experienced such extremes of success and failure as Louis Sullivan, and yet this never changed his ideals or theories about art. In the latter part of his life he came back and once more resumed his career as a great architect, a genius in design, and as Prof. Morrison says, "The Prophet of Modern Architecture."

About the time of the World War when he was almost down and out, it fell to my lot to have an opportunity to help him and to form an intimate acquaintance and friendship with him that lasted to the end of his life. He had no office at that time, but he secured some jobs—some of those delightful small banks of the Middle West—which he did in my office. As he had no club to go to, I proposed him as an honorary member in the Cliff Dwellers. This became a kind of home for him, and it was here that he met Charles Whitaker, Editor of the Journal of the American Institute of Architects, who first published his "Autobiography of an Idea" as a serial in this Journal. Afterwards it was published in book form and became a best seller.

It was the architects of this Club who originated and financed the project of those wonderful drawings of his "System of Ornament," which are now so highly prized by the Burnham Library of the Art Institute of Chicago.

It is a great satisfaction to know that Sullivan lived the latter part of his life in comfort and in increasing ability as a designer and as a philosopher of the theory of architecture.

Prof. Morrison of Dartmouth has done a splendid job by producing this book about Sullivan. It is said that he took five years to complete it, visiting every building and studying the manuscripts of his speeches and all of his numerous writings. His book first presents a very comprehensive set of illustrations of his work with a good description of it; then Sullivan's theory of architecture; and, finally, a critical estimate and discussion of Sullivan's theory.

In his description of Sullivan's work, the author very properly has endeavored to give Mr. Adler full credit for the important part which he played in the work during the years they were associated as partners. Mr. Adler not only designed the important buildings which he did himself prior to that, but he was an outstanding structural engineer and also a distinguished architect in the profession. It so happened that the ability of each of these two men was united perfectly in their practice, which accounted largely for the unusual success of their work. To the book has been added a biographical sketch of Mr. Adler, together with a list of the work done by the firm of Adler & Sullivan.

It is very interesting to trace the development of Sullivan's designing in the illustrations that are presented. He showed in the beginning of his work that he was ahead of his time by simplifying and improving the appearance of those heavy, complicated, and often ugly buildings of that day. His studies of the skyscraper which had just been invented, as exemplified in the Wainwright Building of St. Louis, the Guaranty Building of Buffalo, and the Bayard Building of New York, were real trail breakers in the trend of design of those days.

One of the most difficult and complicated problems any architect ever had to solve in a big way was that involved in the Chicago Auditorium. An auditorium of unprecedented size, surrounded by a large hotel and office building, together with all of their requirements, and the difficulty of putting all of this, including a heavy tower, on floating foundations, was an undertaking which must have seemed almost impossible at that time. Here was an instance where the ability of Adler as a structural engineer and an authority on acoustics, together with Sullivan as the designer, was put to a severe test. Few men would have had the ability or courage to undertake it, realizing the terrific responsibility for the safety of human lives and the financial risk involved. However, the building was a great success and again a great contribution to architecture was made.

Sullivan's system of ornamentation is the feature which, no doubt, has aroused the greatest public interest. Many architects have discussed the subject of being original and breaking away from historic precedent in architectural design, but there is no one who has ever gone as far as he did in creating a system of design and ornamentation that was absolutely original.

His theory of design, "form follows function," as often literally interpreted, does not express half of what he had in mind. Of course, he meant that form should be created first from the use to which the building was to be put, by working out the plan and along with it the elevation, giving a true expression of the plan in the outward appearance of the building. He also had in mind a correct representation of construction as exemplified best in his office buildings, but in addition to that, he had a number of spiritual qualities that he considered just as vital to good design in architecture as he did the more material ones.

He believed that architecture should express a message from the very mind, heart and soul of man—all expressed with the greatest possible beauty. Expression of democracy in architecture was a pet theme of his; not democracy conceived as a form of national government, but as a spirit or force controlling self-government in the individual and his relation to his neighbor and society at large. Representation of personal character and the character of the community and the nation was also a part of his theory.

He held that an architect should originate and create a design that would truly represent the life of the community and nation of which he was a representative, and not under any circumstances copy slavishly the architectural style of some past civilization, as was almost universally the practice in his day. He did not deny that a student of architecture should secure a knowledge and understanding of the past styles of architecture and have a good grounding in all that had contributed to the development of the art, but he did most earnestly deplore the lack of original designing in the architecture of the day.

He believed that the creative ability, in this respect, of American architects was almost dead from lack of use. He tried with all his might to make them conscious of this, and at the same time he produced an example by his own work of what he stood for, that was original in design and unique in ornamentation of the most exquisite charm and beauty. With all of his severity of criticism, he was constructive and eager to show the way by which he acquired his success.

Beginning as the son of a dancing master, going through a course of architectural training that culminated at the Beaux Arts in Paris, and practical experience in several architectural offices, he found that his greatest teacher of design and his greatest source of inspiration was Nature as represented by the growing things associated with human life. He had a garden and in it the flowers, shrubs, trees and sky taught him best how to acquire beauty and how to mould form from function in the design of his architecture.

Prof. Morrison has rendered a most valuable service to architecture in producing and preserving by his book, such an interesting and complete record of Louis Sullivan's work.

—George C. Nimmons.

Washington Today

The Editor: I have been transferred to Washington to the position of Construction Supervisor of Housing Projects in the Midwest States, so I still have special interests in Chicago.

Having lived in Washington 17 years prior to the War, I have noticed many great changes. I used to park my car, for example, all day in front of my office downtown, and without fear of breaking the law! Yesterday I roamed about a block for some time before I could find an open spot along the curb where I might park for a few minutes. When I had finished my errand I found a "ticket" on the windshield! I had visions of being ruthlessly separated from some coin of the realm so I was happily relieved to read on the ticket "The Metropolitan Police Welcome You to Washington," but since I had parked at a loading space—"Please don't do it again." Of course, I'm for the Washington police.

But driving a car now in Washington is a nightmare. The change here is startling. Seemingly everyone drives his car to work, for the curbs are lined with parked cars for blocks away from the business section. Time was when the system of diagonal avenues was a safety precaution—cannon could be located for defense purposes on all approaches to the Capitol, for instance. Then during the "horse and buggy" days the circles, where rectangular streets and diagonal avenues meet, were pleasant open spaces. Now they are a positive menace to public safety. With the mad pace of heavy automobile traffic, you heave a sigh of relief if you enter and leave a "circle" without mixing up with some other car—not to mention the great chance that you have shot off the "pin-wheel" on the wrong street. As to pedestrians crossing a "circle"—they had just better not try.

The greatest change, of course, is at the Mall. The return to Washington's and L'Enfant's plan is wonderful. Old Chinatown, messy buildings, and the Zoological Gardens are all gone, opening up the original park.

The history of the Mall is an epic of city planning worthy of any man's study. Conceived in the very early days of the Union by the French hero of the Revolution, Major Pierre Charles L'Enfant, supported by Washington and Jefferson; laid out only to be encroached on by utilitarian interests; revived and perfected by the commission of 1901 composed of McMillan, Burnham, Moore, Olmsted, McKim, Saint Gaudens and others; but consummated to a great extent only in the last few years. Thanks to these far-seeing leaders, our Capital bids fair to be without a peer in the World.

The Triangle of Federal Buildings just north of the Mall, between Pennsylvania avenue and 15th street, supplies sorely needed space for governmental activities and each building is a fine piece of work with the best near the point—Pope's Archives Building. It is a pity, though, that they had to be so crowded. It is like Ossa on Pelion. The gem of the recently constructed buildings has just been opened—Gilbert's Supreme Court Building opposite the Capitol.

None of the newer structures can outshine Bacon's Lincoln Memorial, however. Its setting on a knoll, with the tree lined reflecting pool, is perfect, and the building itself a thing of beauty and a joy forever. I'll never forget the thrill I got one evening, driving around the memorial to the front, unexpectedly seeing through the colonnade Lincoln's statue brightly flood-lighted, enshrined cameolike in a wonderful composition. In the quiet of the star-lit night, it was an inspiration to anyone.

No wonder people say Washington is a fine spot to live in. But just try to find that spot! There are more people here than at any time since the War and all desirable living quarters are at a premium. There have been several large apartment buildings erected and many residential developments on a large scale. I went through one today where every house was inviting.

The real estate development here in private construction amounted to over \$21,000,000 for 1935—four times what it was in 1933. And Washington has only one-tenth the population of Chicago. Chicago architects and realtors alike will do well to prepare for some real business in 1936. Washington, perhaps, has led the country's return of residential construction activity, due to the increased demand at the Capital, but next year may not show up

so well here compared with other cities with probably a more steadily increasing demand, like Chicago.—*F. Charles Starr.*

December 16, application was made to the District of Columbia Supreme Court by five property owners in Camden, N. J. for an injunction restraining the PWA from proceeding with a \$3,000,000 housing project in Camden. They argue the use of public moneys for private housing purposes is unconstitutional.

The Story of Architects in America

The Peoples Gas Light and Coke Company have collected and bound all the numbers of "Building for the Future" issued through the years 1931-1934, carrying a series of articles on great American architects. The number of great names is seventeen, including Bulfinch, Samuel McIntire, Thomas Jefferson, Benjamin Latrobe, Richard Upjohn, Richard M. Hunt, Henry Hobson Richardson, Charles Follen McKim, Stanford White, William LeBaron Jenney, Daniel Hudson Burnham, Louis Henri Sullivan, John Wellborn Root, Bertram Goodhue, Peirce Anderson, Cass Gilbert, and Raymond Mathewson Hood. This is Part I of the volume.

Part II treats the Chicago World's Fair of 1933, a modern town house, chimneys and fire places. The author is Thomas E. Tallmadge, architect, of Chicago.

Since no publication other than this treats the subject of American architects of note from the beginning of professional practice to today, it is a valuable reference book on this subject. Mr. Tallmadge is to be commended and the Gas Company congratulated for issuing this volume.

New Names Among Illinois Architects

List of candidates granted registration in Illinois, either on the basis of examination held on November 18, 19 and 20, 1935, or by transfer from other states:

BY EXAMINATION: Carl R. Bender, Nathaniel A. Owings, Julius S. Sandstedt, David L. Soltker, Samuel Nock, William Rich, Louis Skidmore—all of Chicago; Jerome R. Cerny and George T. Senseney of Lake Forest, Ill.; Karl F. Kamrath, Winnetka, Ill.; Rudolph L. Kelly, Springfield, Ill.; Vladimir J. Novak, Berwyn, Ill.; Roy L. Phak, Cicero, Ill.; William J. Bachman, Hammond, Ind.; Arthur B. Henning, Kokomo, Ind.; Andrew A. Toth, South Bend, Ind.

BY TRANSFER: Everett H. Hughes, Evanston, Ill. transferred from Pennsylvania; Raymond N. LeVeé, Appleton, Wis. from Wisconsin; Edgar Rollings Kimball, St. Louis, Mo. from Michigan.

BY STANDARD NCARB EXAMINATION IN ILLINOIS: Carl C. Braun, New York, N. Y.; Ernest L. Stouffer, Champaign, Ill.

John J. Glessner, patron of art and architecture, died in his home at 1800 Prairie avenue, Chicago, in his 93rd year on January 20, 1936. Besides being one of the founders of the Chicago Symphony Orchestra and a director of the Art Institute, he was an honorary member of the A. I. A. He had commissioned H. H. Richardson to design and have built in the 1880's his residence in Chicago and here he died.

This house, through a deed of gift, was willed to the Chicago Chapter, A. I. A. on December 1, 1924 by John J. and Frances M. Glessner, the gift to take effect on the death of both, or before, should Mr. Glessner so decide, the donors to retain a life estate. Mrs. Glessner died in 1932. The house has great historic interest and value in that it is the only surviving work of Richardson in Chicago.

Simeon B. Eisendrath, architect, formerly of Chicago, died in New York City, November 26. Mr. Eisendrath was born in Chicago. He studied architecture at M. I. T., Boston, with the class of 1890. His office experience was in the office of Adler and Sullivan. Later he practiced independently in Chicago. He was appointed Commissioner of Buildings for the City of Chicago by Mayor John P. Hopkins and served from January to November 1894. Before 1900 he left Chicago and located in the East. He became instructor in the architectural department of Carnegie Institute of Technology, Pittsburgh. Later he moved to New York.